

CLAIMS

1. Safety system for the elevator landing doors of an elevator fitted with an elevator control unit (5), and at each elevator landing door (21), electrical contacts (11, 12) that indicate the locking state and the closing state of the elevator landing door,

characterised in that it comprises :

- elevator landing door surveillance units (10), installed on each elevator landing door, to receive the state of the electrical contacts (11, 12) fitted to each of the elevator landing doors (21),

- synthesis unit (4) connected to the surveillance units (10) to receive the state of the elevator landing door electrical contacts (11, 12), and to the elevator control unit (5) to receive other information on the working order of the elevator,

- alarm signal devices (13, 14),

- synthesis unit (4) further comprising means of determining (41) the state in which the elevator landing doors are in according to the received information, and to actuate the signal devices (13, 14) if the state of the elevator landing doors is considered to be critical to the elevator users.

2. Safety system according to claim 1, characterised in that it comprises means of determining (22, 22') if the car (20) is in the elevator landing door (21) unlocking zone and means of determining if the car
5 (20) door (24) is closed or not, the state of the elevator landing doors (21) also being determined according to whether the car (20) is or is not in the elevator landing door (21) unlocking zone and the open or closed state of the car (20) door (24).

10 3. Safety system according to claims 1 or 2, characterised in that it further comprises means of determining the position of the elevator car (20) in the elevator shaft (1), these means being connected to a synthesis unit (4), the state of the elevator landing
15 doors (21) also being determined according to the position, provided by the means of determining the position of the car.

4. Safety system according to claim 3, characterised in that the means of determining the
20 position of the car (20) in the elevator shaft (1) comprises a GPS receiver installed on the car or a device that measures the distance between a fixed point and the car.

5. Safety system according to claim 3, characterised in that the means of determining the
25 position of the car (20) in the elevator shaft (1) comprises means of deducting this information from data provided by the elevator control unit (5), and from configuration and operating parameters of the elevator.

30 6. Safety system according to claims 1 to 5, characterised in that it comprises means of attributing (41) a critical state, to the elevator landing doors (21)

if the car (20) has stopped at a landing in line with an elevator landing door, and if another elevator landing door has been detected as being unlocked, or if the car has been detected between two landings and at least one
5 elevator landing door has been detected as being unlocked.

7. Safety system according to claims 1 to 6, characterised in that the alarm signal devices comprise means of sound and/or light signalling installed in the
10 elevator shaft (1).

8. Safety system according to claims 1 to 7, characterised in that the alarm signal devices comprise means of alarm signalling (16) installed in the caretaker's premises.

15 9. Safety system according to claims 1 to 8, characterised in that the synthesis unit (4) is linked to means of transmitting the state of the elevator landing doors to a remote maintenance system.

10. Safety system according to claim 9, characterised in that the means of transmitting comprise a telephone transmitter.

11. Safety system according to claims 9 or 10, characterised in that the means of transmitting comprise a PSTN type telephone transmitter backed up by a GSM type
25 transmitter.